they have lost much of their raw material sources and have had to shift their principal industries to the east. And finally, Kapitsa has great praise for the contribution of Soviet scientists to the success of their aviation.

MEDICINE

Having of necessity to devote the major part of my remarks to generalities in speaking on the subject which I have chosen, I would like now to refer briefly to the contribution which medical science and art have to make to the war effort. Medicine, having to deal in the main with the maintenance of the health and morale of the armed forces, has not been cloaked in secrecy to the same degree as in the case of physics, chemistry and engineering, and much of the investigational work which has been carried out under the ægis of special committees has been published.

It may be said that Medicine has a five-fold rôle to play in the war effort. (1) In the selection of suitable military personnel by excluding from the armed services the physically and mentally unfit. This called for the formulation of appropriate physical standards and the judicious interpretation of these by the examining officers who are called upon to accept or reject volunteers or selectees for enlistment. (2) Through the application of modern principles of sanitation and disease prevention, to protect against pestilence and to keep the military personnel as well as industrial workers in good health and physical conditions. (3) To give adequate medical attention and treatment to those unfortunate individuals, both military and civilian, who become disabled. (4) To assist in the rehabilitation of the permanently disabled. (5) By continued research to improve methods of treatment and to discover the fundamental principles of the etiology of disease with a view to its prevention, control, or eradication.

AVIATION MEDICINE

In regard to the latter division of activity of the medical group there has been no greater achievement of success than that of the Associate Committee on Aviation Medical Research. The Committee came into being as a direct result of the energetic activities of the late Sir Frederick Banting, and in the furtherance of the work of which he met such an untimely end. With foresight possessed by few he saw clearly the approach of the present world upheaval, and did all within his power possible to make his country prepared medically long before the outbreak of war. He saw clearly the great gap which had been created during the past two decades between the safe performance ability of the aeroplane made possible by the great advances in aeronautical engineering, and the ability of the human subject to tolerate the conditions of flight then envisaged.

If I may be allowed here to state some factual information relative to this, I am sure that you will appreciate all the more the great urgency as Sir Frederick saw it to get on rapidly with fundamental research in aviation medicine.

At an altitude of 12,000 feet, owing to low barometric pressure, man begins to suffer from an insufficient supply of oxygen and signs of physical and mental deterioration may become manifest. At altitudes of 25,000 to 30,000 feet the oxygen pressure falls to such a low level that life itself, at least for many, becomes impossible. At 40,000 feet even the breathing of pure oxygen fails to meet the needs of the situation. Certain of the modern aeroplanes are capable, however, of reaching heights considerably in excess of this level.

The speed of the modern fighter plane, especially in combat manœuvres, may be responsible for a variety of sudden changes in the equilibrium of the body, and these changes are capable of causing great disturbances of function.

Since the death of Sir Frederick Banting this committee, under the chairmanship of Colonel Duncan Graham, has carried on and achieved in a manner in keeping with the high ideals of its founder.

Clinical and Laboratory Notes

AN IMPROVISED SOUTHEY TUBE

By John A. McLaren, M.D.

Montreal

The shortage of special medical and surgical equipment has necessitated certain improvisations on the part of the physician or intern during the past 4 years. The need for a set of Southey's tubes led to the putting together of the following device in the Montreal General Hospital.

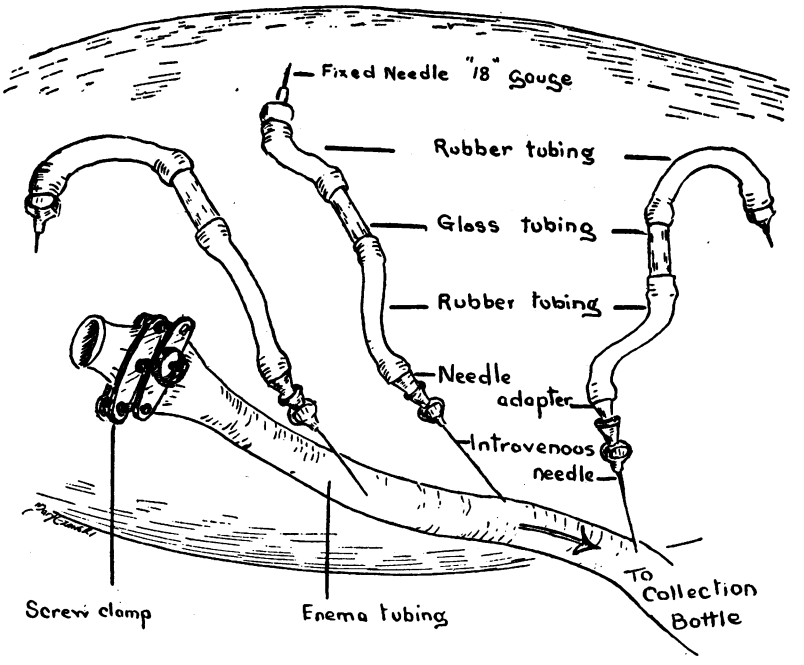
Due to the thrift of the nursing staff there were on the ward a number of connections from pneumococcus antiserum sets (Lederle) consisting of the following pieces: (*a*) two pieces of rubber tubing connected by a small glass tube; (*b*) on one end a small fixed needle, 18-gauge, with short bevel; (*c*) a metal adapter on the other end to which could be fitted an intravenous needle, 20-gauge, also supplied with the set. There were seven such units available. Other necessary equipment was a piece of enema tubing and a small screw clamp.

By fitting the intravenous needle to the adapter one had in effect a rubber tube with needles at each end. The enema tube was to

serve as a collection tube and the screw clamp merely closed off the upper end of it.

In setting up such tubes, the small 18-gauge needles were inserted subcutaneously at various points in the part to be drained, *e.g.*, the legs, and the intravenous needle placed in the enema tube at the appropriate place. The lower end of the enema tube was attached to a collection bottle. As long as the principles of gravity drainage were observed, the tubes functioned well.

In one patient with massive œdema of the lower extremities 1,000 c.c. were drained off in 24 hours. Later, because of penile and scrotal œdema they were placed subcutaneously in that area and 500 c.c. were drained in 1 hour.



IMPROVISED SOUTHEY'S TUBES

This device has proved as satisfactory as Southey's tubes and has one advantage, namely that the tubes may be placed at the most desirable points in the skin, and then connected at any point to the enema tubing as the length of the small unit demands.

Editorials

VENEREAL DISEASE CONTROL

THE exigencies of war have forced the people of Canada to face the problem of the venereal diseases and their control. The issue can no longer be ignored. There was evidence even before the onset of war that a growing social consciousness was uncovering this long neglected national tragedy. The acceleration of this pre-war trend has in a dramatic fashion, simultaneously throughout Canada, aroused the people and their governing agencies. The result is a situation unique in the annals of our national health, a united desire to overcome venereal disease.

The temper of the Canadian public was revealed by the sweeping affirmative response of citizens to a Gallup Poll on venereal disease held in May. It was evident that prudery and taboo had been cast aside and that the citizens overwhelmingly supported action. From the government standpoint, Federal and Provincial action and expenditure indicates an intention to come to grips with the problem. During the coming fiscal year, almost a million dollars will be spent by government health departments on venereal disease control. During the past three years increasing Provincial Health Department activity has been reflected in more personnel, improved statistical recording and the amendment of legislation. Federal Government participation in the national effort has been three fold; a unified program of control for the Navy, Army, Air Force and Department of Pensions and National Health; the provision of grants-in-aid to Provinces amounting to $175,000; and the re-establishment of the Federal Division of Venereal Disease Control. The timely initial action on the part of the people of Canada and their governing agencies augurs well for the future health of the nation, provided the action is sustained and augmented.

A comprehensive approach to the problem has been announced to the Special Committee on Social Security of the House of Commons. There is a place for every citizen